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ABSTRACT

A study involving 304 seventh and eighth grade students (197 girls, 107 boys) including five educable mentally retarded (EMR) students was conducted to examine how competency statements influenced non-EMR students in their selection of pair members in a game playing situation. Ss were shown a simple game and asked to select partners and opponents from two pairs of students matched on sex and grade. The experimental pair had one EMR student and one non-EMR student; the control pair had two non-EMR students. The Ss' past knowledge of the pair members (as indicated from questionnaires administered to each S) served as a covariate in the design to determine its influence on the competency statement and selection. Results indicated that the covariate was not a significant factor in the selection process. However, the appended competency statement was found to be highly significant in influencing selection of the pair member. Differences in selection frequencies were also found between the male and female Ss. (Author/SE)

THE INFLUENCE OF COMPETENCY LEVELS ON THE ACCEPTANCE OF THE INTEGRATED EMR STUDENT[1]

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As the number of EMR students "mainstreamed" into the regular class increases (Gottlieb, 1974; MacMillan, 1972), there is a great need to identify those factors which would insure the successful integration and acceptance of these students (MacMillan, Jones, & Meyers, 1975).

One aspect of the integration process involves the social acceptance of the EMR child by his non-retarded peer. Past studies which have investigated the sociometric status of EMR children within the regular class (e.g., Goodman, Gottlieb, & Harrison, 1972; Johnson, 1950; Johnson & Kirk, 1950) have generally concluded that the EMR child is accepted less often or rejected or isolated more often than his non-retarded peer.

Of the many variables influencing the acceptance of the EMR child, an important factor appears to be that of the competency he manifests. Gottlieb (1974) investigated the role of the label "mentally retarded" and academic competency and found that the competency level of academic performance significantly influenced the attitudes of subjects over the presence of a label.

Gottlieb and Davis (1973) reported the integrated EMR to be chosen less frequently than the non-EMR child in a game playing situation. They suggest that the differences observed in the choice of the non-EMR child over the EMR child may be a result of subjects perceiving the competency of the non-EMR to be greater than that of the EMR child.

Since the EMR child appears to be selected less frequently than the non-EMR as a partner in a game playing situation, it was felt that an alternative of being chosen as an opponent may increase the EMR child's chances for selection and greater interaction with his non-EMR peer.

Varying levels of competency were further examined by Strichart and Gottlieb (1975) by having the EMR child serve as a good, moderate, or poor imitative model for a non-EMR peer. They reported a significant relationship between increased competency of the EMR and his selection by the non-retarded peer as a future game partner.

In both of these reports (Gottlieb & Davis, 1973; Strichart & Gottlieb, 1975), subjects were familiar to some extent with each other prior to their involvement in a game playing situation. As such, the perceived competency may have interacted with this previous familiarity to influence results. It is of interest to examine how a competency statement may operate to influence selections in the absence of any past knowledge or familiarity with the other subjects.

In the present study, the investigators' purpose was threefold: 1) to examine how competency statements influenced non-EMR students in their selection of pair members in a game playing situation, both with and without prior knowledge of the pair members to be selected, 2) to further assess the selection rates of male and female students in choosing EMR peers, 3) to investigate how the EMR child is selected under two conditions in a game playing situation: 1) to be a partner and 2) to be an opponent.

Within the study, the investigators included a short questionaire which served to determine the degree of past knowledge each subject had about the pair member from which a partner or an opponent was to be selected. This information was used as a covariate in the analysis to assess whether past knowledge of a student would influence the selection

of a partner or opponent, independent of any competency statement about the student.

METHOD

SAMPLE

The sample consisted of 304 intermediate school students attending regular classes. There were 80 girls and 107 boys from the 7th grade and 117 girls from the 8th grade.

There were three sections of Physical Education (classified by grade and sex) scheduled for each of six periods (See Table 1). Each section

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INSERT TABLE # 1 ABOUT HERE

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was tested within each period in the following order: Section One - 7th grade girls, Section Two - 8th grade girls, and Section Three - 7th grade boys. The sections involving 8th grade boys were excluded from the design since there were no 8th grade EMR boys attending the school. All subjects were randomly assigned to treatment conditions and tested in groups according to grade and sex during their normally scheduled physical education class.

PROCEDURE

The entire administration of the instrument lasted approximately 15 minutes per group. All testing was done by the same experimenter who was introduced to each group of students by their respective physical educa-

tion teacher. All subjects responded to the questionaire independently to insure individuality of response.

Subjects were told that the experimenter was interested in seeing how students selected partners and opponents while playing a simple game called the "Bean Bag Game." The rules of the game were explained to each group prior to the testing situation. The initial explanation consisted of three parts.

First, the rules of the game were clearly explained and demonstrated to the subjects by the experimenters. The "Bean Bag Game" consisted of the subject tossing three bean bags over a screen unto targets on the floor that varied in value from 2 to 5 points with a miss counting as one point. The highest score for three tosses was 15 with the lowest possible score being 3. After the explanation, the subjects were questioned by the experimenter to insure they clearly understood the rules of the game.

Second, the experimenter then explained the two ways in which the Bean Bag Game could be played. The first method is to select a partner and have each one toss three bean bags, attempting to accumulate a total of 15 points between them to win the game. The experimenter emphasized the <u>importance of cooperation</u> between the partners in order to win the game. The second method of playing the game is to select someone as an opponent to compete against. Each person tosses three bean bags and the one obtaining the highest score is declared the winner. This time the experimenter emphasized <u>competing against</u> someone in order to win the game.

Third, the subjects were told that they would observe two pairs of students who were ready to begin playing the Bean Bag Game and they would be asked to make some selections. The first pair that the subjects observed served as the control pair; the second pair served as the experimental pair.

Each subject was asked to read silently one of the three randomly assigned treatment conditions contained in the answer booklet that described a level of competency for each pair member as they were observed. (See Instrument Section below)

In order to explore how selection rates vary with competency levels, the experimenters employed two pairs of students -- a control and an experimental pair. The control pair consisted of two students who did not attend school in the same district as the subjects and were thus completely unknown to the subjects prior to testing. The experimental pair consisted of one randomly selected non-EMR student from one of the P.E. classes and one randomly selected EMR student of matching grade and sex from the Special Education class who was also assigned to one of the P.E. classes; however, neither appeared in front of the class of which he/she was a pair member. The only exception to this was the single EMR boy who was the only male EMR in the school. He appeared in front of the P.E. class to which he was assigned.

There were only five EMR students in the school and all were utilized in the design (one 7th grade boy; two 7th grade girls; two 8th grade girls). With the exception of the male EMR, all other EMRs were randomly assigned to treatment conditions per class period. All EMRs were attending regular non-academic classes and activities such as physical education, music, shop, homemaking, typing and choir on a half-day basis. The other

half of the day the students were attending a special self-contained class located on the same campus.

Under the assumption that competency is a major influence in the selection process rather than liking or disliking, popularity or unpopularity (Gottlieb et al, 1973), the only differences observed in the selection rates of subjects between or within the two pairs of students should be a result of the competency statement appended to each pair member. The control pair would also serve to assess the effect of a competency level statement alone in that there was no ancillary knowledge available to the subjects concerning the unknown pair of students other than the experimentally manipulated conditions.

INSTRUMENT[a]

The instrument employed in the study consisted of three parts. The first section answered by each student consisted of a series of questions to determine the general degree of knowledge, if any, that he had about the pair of subjects he was observing. Each pair member wore a letter (A or B) for easy identification. The data have been coded so that the letter A is always associated with the EMR child in the experimental pair.

The next section of the instrument contained the treatment condition which described one of three levels of competency. Each subject was randomly assigned to one of the three conditions listed below. The competency statement indicated how well the pair members performed in playing the game. The three conditions were:

[a] Information on the test instrument can be obtained by writing the authors.

Condition 1: (Student A and B equal)
Both Student A and Student B have played the Bean Bag Game.
When Student A played the game, he/she got a score of 7 points which is average.
When Student B played the game, he/she got a score of 7 points which is average.

Condition 2: (Student A superior)
Both Student A and Student B have played the Bean Bag Game.
When Student A played the game, he/she got a total score of 11 points which is very good.
When Student B played the game, he/she only got a score of 5 points which is a little below average.

Condition 3: (Student B superior)
Both Student A and Student B have played the Bean Bag Game.
When Student B played the game, he/she got a total score of 11 points which is very good.
When Student A played the game, he/she only got a score of 5 points which is a little below average.

Hence, a third of the observers were given information that the two pair members performed equally well, another third that Child A performed better than B, and the last third that Child B performed better than A.

Lastly, the subjects were then requested: 1) to select either Student A or Student B as a partner, 2) to select either Student A or Student B as an opponent. For each selection, the subject was reminded that the partner he selected should help him to win the game and the opponent he selected would have to be defeated to win the Bean Bag Game.

DATA ANALYSIS

The experimental design utilized a four-way double-nested classification of subjects by grades (grade-sex), sections within grades, and control and experimental classification as well as the three competency

level conditions within sections. The data consisted of selection frequencies for each of the pair members: 1) as a partner and 2) as an opponent together with a score assessing prior knowledge of each pair member by individual subjects as measured by part one of our instrument. (See Table # 2a and 2b)

INSERT TABLE # 2a and 2b

In that the control pairs consisted of students attending schools in districts different from that of the subjects, their corresponding prior knowledge scores were identically zero. Therefore, an analysis of covariance was performed on the selection frequencies obtained for the experimental pairs only, using prior knowledge as the covariate. This initial analysis indicated that prior knowledge of the experimental pair members did not significantly influence a subject's selection of a partner or an opponent to play the game.

Hence, an analysis of variance involving control and experimental pairs was performed and single degree of freedom contrasts appropriate to the hypotheses under investigation were carried out on the selection frequencies of the pair members: 1) as a partner and 2) as an opponent.

Unexpected absences in the third section of the 7th grade boys' P.E. class required the use of least squares estimates of control and experimental selection frequencies for competency level Condition 2 (A superior). These estimates were obtained using within sex and grade information and are reflected in the "loss" of two degrees of freedom for Pairs x Conditions x Sections within Grades.

RESULTS

The analysis of the selection frequencies of A as a partner indicated the existence of significant differences among the selection frequencies (See Table # 3) for the three competency level conditions ($F = 19.98$, $df = 2, 30$, $p < .001$) as well as a significant difference between the selection for control vs. experimental pairs ($F = 33.24$, $df = 1, 15$, $p < .001$). The single degree of freedom contrasts among the competency level conditions showed a significant difference in selection rates for Conditions 2 (A superior) and 3 (B superior) ($F = 37.54$, $df = 1, 30$, $p < .001$); the contrast Condition 1 (A and B equal) vs. Conditions 2 and 3 was not significant.

Insert Table # 3 About Here

The significant interaction of Pairs x Grades ($F = 5.45$, $df = 2, 15$, $p < .05$), further investigated by the contrasts Control vs. Experimental Pairs x Males vs. Females ($F = 10.48$, $df = 1, 15$, $p < .001$) and Control vs. Experimental Pairs x 7th grade Females vs. 8th grade Females revealed a significant difference in selection rates between the control and experimental pairs for male and female students.

The analysis of the selection frequencies of A as an opponent produced results similar to those found in the analysis of the selection frequencies of A as a partner. Specifically, the comparison of the selection frequencies for A as an opponent for control vs. experimental

pairs was significant ($F = 5.10$, $df = 1, 15$, $p < .05$). Differences among the selection frequencies for the three competency level conditions were also significant ($F = 16.51$, $df = 1, 30$, $p < .001$), due principally to the difference in responses to Condition 2 (A superior) and Condition 3 (B superior).

Although neither the Pairs x Grades nor the Pairs x Grades x Conditions interactions were significant, the contrast Control vs. Experimental Pairs x Condition 2 vs. Condition 3 x Males vs. Females was significant ($F = 5.13$, $df = 1, 28$, $p < .05$).

DISCUSSION

Data indicate that the competency statements were significant in influencing the selection of pair members both as a partner and as an opponent. (See Graph # 1) These data provide evidence that the competency

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Insert Graph # 1 About Here

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statement had differential effects in the selection of partners and opponents depending upon a subject's sex and grade.

Gottlieb and Davis (1973) suggested that the non-EMR student judged the integrated and segregated EMRs by using a separate criteria for judgements in each case. These data imply that there may also be different criteria applied by non-EMR students in evaluating and selecting integrated EMRs and their non-EMR classmates as well as in selecting pair members who were previously unknown prior to the experimental setting.

Although significant differences in selection frequencies of male and female students did occur, this study did not support the previous findings of Sheare (1974), Strichart and Gottlieb (1975), Goodman, Gottlieb and Harrison (1972) who reported that females tended to be less rejecting of the EMR than males. On the contrary, our data indicated that females were significantly more rejecting of the EMR pair member than males across the treatment condition. (See Graph # 2)

Insert Graph # 2 About Here

The observed differences between the sexes may be explained in part by the fact that the testing situation involved motoric skills and competition, an area where males and females may operate from different perspectives.

Following the experiment, the physical education teacher and special education staff indicated that the male EMR was known by his classmates as being well coordinated and a good athlete. Hence, the male EMR's athletic reputation may have positively influenced the male subjects in their selection of him. The female subjects, on the other hand, observed female EMRs who lacked this kind of supportive background.

These findings do suggest, however, that acceptance and/or rejection of the integrated EMR varies between the sexes with females rejecting their EMR classmates more often than their male counter-parts. The females tended to select the EMR pair member less frequently as a partner and more frequently as an opponent then the males even when the competency

statement indicated the EMR pair member to be as competent as the non-EMR pair member. (See Graph # 3)

Insert Graph # 3 About Here

These data show that although the EMR child was not selected as a partner as frequently as his non-EMR classmate, he/she was always selected as the alternative to be an opponent. This seems to imply that although not accepted as often as the non-EMR, the EMR is at least not completely rejected. This apparent willingness on the part of the non-EMR student to interact with the EMR student may indicate that there exists a middle ground that is neither outright rejection nor acceptance of the EMR child. However, this process may operate only when there are two or more possible choices from which the non-EMR can make his selection.

The data from this study supported Gottlieb's (1974) contention that the competency level may be a dominant factor in selecting an EMR for a teammate. However, the interaction effects of sex and conditions as seen in these results indicate that other variables may operate to vary the influence of a competency statement. One of the variables that may influence the acceptance of a stated competency level by a subject may depend in part on how the competency information is transmitted to the subjects. This study utilized a one-time only general statement from the experimenter without any supportive evidence or time for evaluation of the actual competency by the subjects. Had each subject played the game with the pair members and experienced the actual competency level as was

employed by Strichart and Gottlieb (1975), the selections may have been altogether different. Another approach employed by Yoshida (1975) was to present repeated observations of specific competencies over time to enable the subjects to more thoroughly examine and evaluate the actual competency levels. The source of the competency statement about the pair may affect the credulity of the information. The subject's acceptance of a competency statement may vary depending on whether it came from an unknown experimenter, a peer, a well-liked teacher, or the individual himself.

Selection may vary if the competency level appended to a pair member differs significantly from the subject's own view of his competency on the particular game. Hence, if a subject feels his competency on an assigned task (in this case, the Bean Bag Game) is low, he may select on a different basis than if he assesses his competency as sufficient in itself or better than the competency level appended the pair member.

This may help to account for the differential effects observed as the competency level was varied from low to high. There appeared to be a greater willingness by the subjects to accept a lower competency statement about a pair member than a higher one. (The only exception to this was in the selection of a partner under Condition 2 (Student A superior) for the experimental pair.) (See Table # 2a) It seems that each subject may have had to deal with varying degrees of cognitive dissonance as they evaluated each pair member prior to making a selection. When the competency level was consistent with the subject's expectation of the pair member, there would be less dissonance and thus he would be more willing

to accept the competency statement. However, if the level appended had differed significantly from what the subjects had anticipated, then there would be greater resistance in accepting the stated competency.

In conclusion, this study tended to support the investigators' original purposes. It was found that competency statements are a significant factor in influencing peer selection for a partner and an opponent. However, the actual selections made were also influenced by the subject's sex and grade. Also, females were shown to be more rejecting than the males in selecting the EMR child as a partner. Lastly, the EMR child, although not selected as often as a partner, was not totally rejected in that he was selected at least an an opponent in a game playing situation.

TABLE # 1

Size of Testing Groups Per Period

Period	1st Group 7th Grade Girls	2nd Group 8th Grade Girls	3rd Group 7th Grade Boys	Total
1	16	20	13	49
2	18	13	26	57
3	6	26	5	37
4	14	18	20	52
5	14	18	24	56
6	12	22	19	53
	80	117	107	304

TABLE # 2a

Percentage for A as a Partner

Conditions	Pair	Grades			Mean	
		7-Male	7-Female	8-Female		
A and B Equal (A = B)	Control	48.01	38.61	67.85	51.49	41.44
	Experimental	60.45	15.14	18.59	31.39	
A Superior (A = 11)	Control	89.92	80.40	74.47	81.60	69.33
	Experimental	59.95	54.10	57.14	57.07	
B Superior (A = 5)	Control	17.07	54.17	46.03	39.09	30.61
	Experimental	21.92	26.39	18.06	22.12	
Mean	Control	51.67	57.73	62.79	57.39	
	Experimental	47.44	31.88	31.26	36.86	
	Grades	49.55	44.80	47.02	47.12	

TABLE # 2b

Percentage for A as an Opponent

Conditions	Pair	Grades			Mean	
		7-Male	7-Female	8-Female		
A and B Equal (A = B)	Control	57.39	64.86	38.17	53.47	60.00
	Experimental	46.28	81.39	71.94	66.53	
A Superior (A = 11)	Control	27.88	31.85	31.22	30.32	32.33
	Experimental	41.21	22.38	39.42	34.34	
B Superior (A = 5)	Control	80.00	53.61	53.67	62.43	68.67
	Experimental	69.75	75.83	79.17	74.92	
Mean	Control	55.09	50.11	41.02	48.74	
	Experimental	52.41	59.87	63.51	58.60	
	Grades	53.75	54.99	52.26	53.67	

TABLE # 3

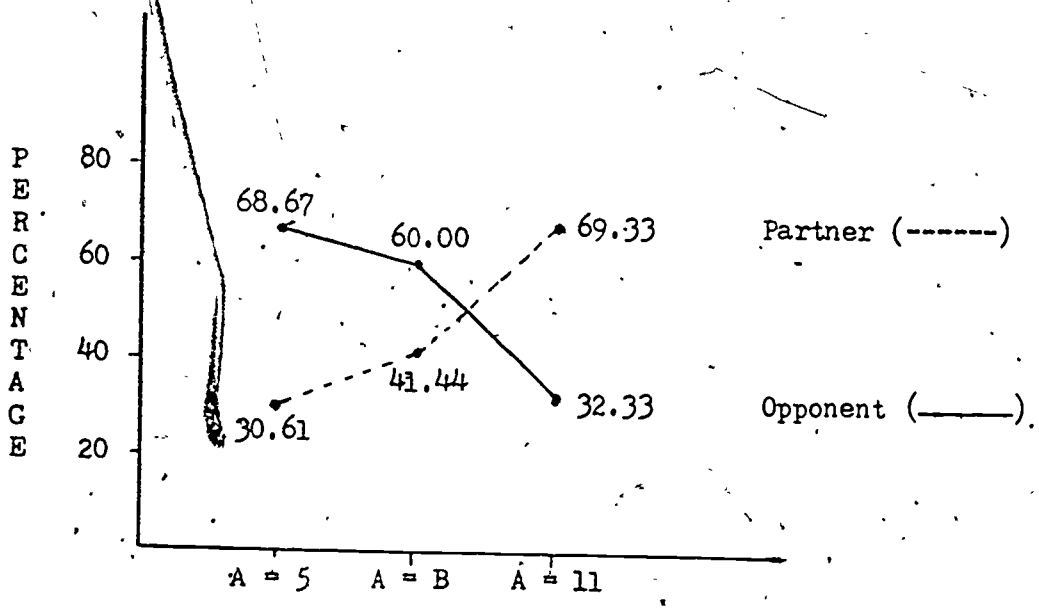
Analysis of Variance

Source	df	Percentage for A as Partner			Percentage for A as Opponent		
		Mean Square	F	P	Mean Square	F	P
Grades	2	203.59	.29		67.05	.07	
C_1 : M vs. F	1	318.24	.45		.37	.00	
C_2 : 7 F vs. 8 F	1	88.94	.13		133.73	.14	
Sections/Grades	15	702.30			943.09		
Conditions	2	14369.95	19.98	$p < .001$	12973.00	16.51	$p < .001$
C_1 : 1 vs. 2 + 3	1	1745.15	2.43		2167.83	2.76	
C_2 : 2 vs. 3	1	26993.90	37.54	$p < .001$	23778.16	30.25	$p < .001$
Conditions x Grades	4	1836.47	2.55	$.05 < p < .10$	1057.32	1.35	
$C_1 \times G_1$	1	2897.60	4.03	$.05 < p < .10$	1839.20	2.34	
$C_2 \times G_1$	1	2515.06	3.50	$.05 < p < .10$	142.88	.18	
$C_1 \times G_2$	1	1794.81	2.50		2120.27	2.70	
$C_2 \times G_2$	1	138.41	.19		126.93	.16	
Conditions x Sections/Grades	30	719.06			785.99		
Pairs (Control vs. Experimental)	1	11383.41	33.24	$p < .001$	26231.80	5.10	$p < .05$
Pairs x Grades	2	1867.32	5.45	$p < .05$	1425.31	2.77	$.05 < p < .10$
$P \times G_1$	1	3589.69	10.48	$p < .01$	2121.42	4.12	$.05 < p < .10$
$P \times G_2$	1	144.94	.42		729.20	1.42	
Pairs x Sections/Grades	15	342.49			514.52		
Pairs x Conditions	2	129.92	.22		230.77	.51	
$P \times C_1$	1	2.53	.00		138.75	.31	
$P \times C_2$	1	257.32	.43		322.80	.72	
Pairs x Conditions x Grades	4	1105.91	1.84		856.65	1.90	
$P \times C_1 \times G_1$	1	1778.58	2.96		914.24	2.03	
$P \times C_2 \times G_1$	1	1671.18	2.78		2311.04	5.13	$p < .05$
$P \times C_1 \times G_2$	1	910.85	1.52		45.84	.10	
$P \times C_2 \times G_2$	1	63.02	.11		155.48	.34	
Pairs x Conditions x Sections/Grades	28	600.14			450.69		

(17)

GRAPH # 1

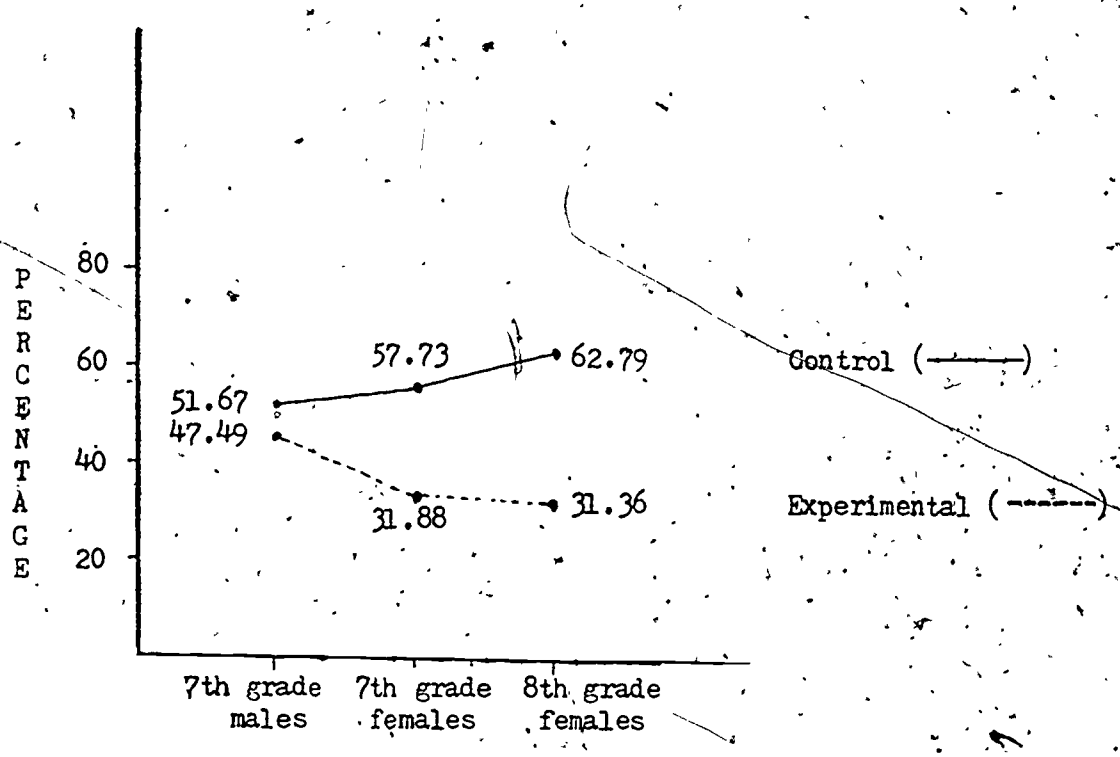
Conditions



Selection Percentages For All Subjects Across Experimental And Control Pairs

GRAPH # 2

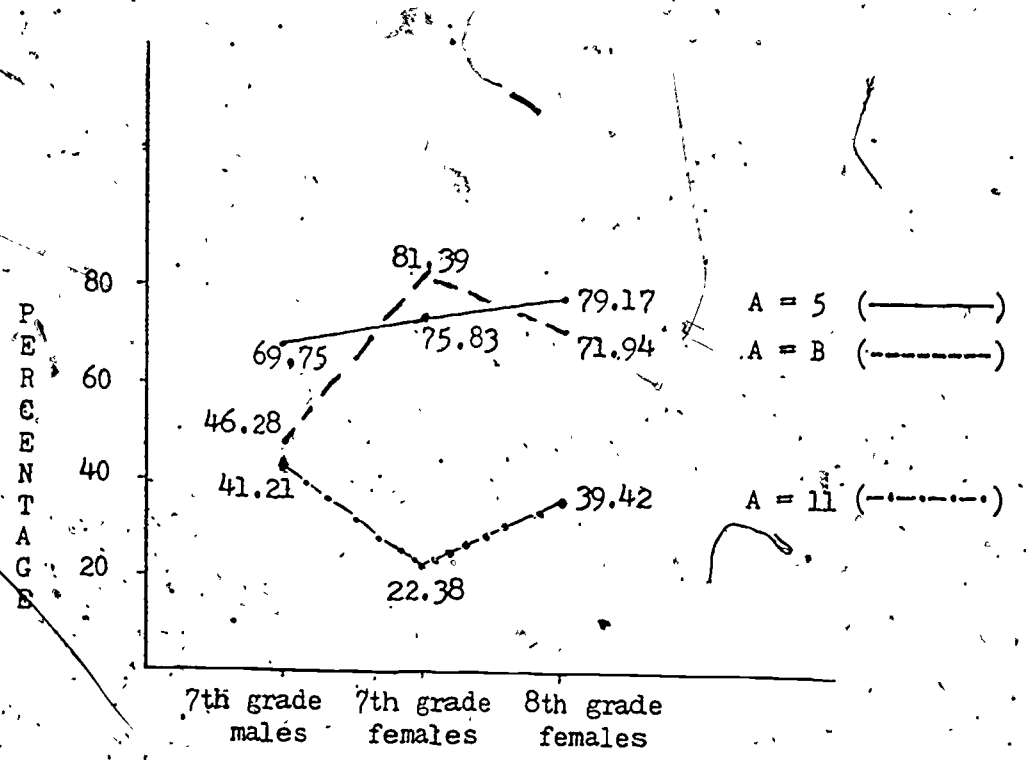
Pairs x Grades



Selection percentage of A as a Partner

GRAPH # 3

Pairs x Conditions x Grade



Selection Percentage of A as an Opponent

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FOOTNOTES

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